AMENDMENT

Appl. No 10/771,763
Amendment date: May 12, 2009.
Reply to Office Action of November 14, 2008.

AMENDMENTS TO THE SPECIFICATION

Abstract:

A stabilized buoy platform for cameras, sensors, illuminators and tools, which incorporates a buoy, a stabilizing mechanism and a stabilized payload platform thereon. Affixed to the stabilized payload platform are sensors and tools which include cameras and sensor systems integrated with the appropriate illumination technology, all of which are stabilized both for ease of ~~tacking~~ tracking, identification and monitoring of targets. The invention also provides for other species of objects and tools, applicable in surveillance, security, protection and tasks where tools need to be stabilized to perform their intended functions.

SUPPORT: Correction of spelling error. "Tacking" should have been "tracking".

Paragraph 0007:

Stabilizing cameras and lights on buoys for security and surveillance purposes has been impractical because buoy motion prevents a stable image. With the introduction of autonomous security systems, computers are being relied upon to interpret camera and sensor imagery from video, infrared, and other sources. During surveillance if the object is moving randomly through the sensor's field of view due to buoy motion, it will be a more difficult if not impossible task identifying the object or it's path of motion. In addition, various types of illumination or spectrums may be required to "see" objects within the sensor's field of view. Stabilization of the illumination source is therefore also desirable. The stabilization system stabilizes the cameras/sensors, devices and/or tools in one, two or three axis, which include pitch, roll, azimuth.

The current invention provides for a device such as a sensor, and/or tools, to be operated from a remote location via wire or wireless control by a human or a computer. The current invention also provides for a device, such as a sensor, and/or tools to be operated from the buoy by direct control of a human operator or a computer stationed on the buoy platform. When a computer is involved, the task can be accomplished autonomously wherein the computer, obtaining information from the sensor, is programmed to recognize movement, and/or the progress of the tool in performing its task. The device and/or tools take an action based upon the commands from a person or computer, resulting in the continuation and completion of the task. The computer can also control the motors positioning the buoy so that the buoy maintains position relative to the object the task is being performed upon, thus allowing for the accurate and efficient accomplishment of the task. All of these capabilities including stabilization of the sensor and the tool, and the stabilization of the buoy platform relative to the object upon which the task is being performed, are required for the efficient completion of the task.

SUPPORT: The additions to the specification are based upon the original Claims 1, 8, 9, 10 & 11.

Original Claim 1:

A stabilized buoy platform comprising:

(a) a buoy float having a support platform for mounting a stabilized platform on the buoy float;

(b) a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float in one, two or three axis which include pitch, roll and azimuth; and

(c) at least one device and/or tool mounted on the stabilizing system.

Original Claim 8:

"The stabilized buoy platform of claim 1wherein the device and/or tools can be operated from a remote location via wire or wireless control by a human or a computer."

Original Claim 9:

"The stabilized buoy platform of claim 1 wherein the device and/or tools can be operated from the buoy by direct control of a human operator or a computer stationed on the buoy platform."

Original Claim 10:

"The stabilized buoy platform of Claim 1 wherein the device and/or tools are sensors and

(a) a computer recognizes movement within the stabilized sensor image; and

(b) the computer sends signals to the stabilizer and/or camera which control the stabilizer and/or camera to track the movement of the object seen within the stabilized image."

Original Claim 11:

"The stabilized buoy platform of claim 10 wherein the device and/or tools take an action based upon the commands from a person or computer."

Paragraph 0039:

The purpose of the sensors or encoders at one or more of the joint angles is to measure the joint angle which the CPU central processing unit 240 will then use to calculate the position of payload plate 334 in reference to buoy float 1b. This can be mathematically calculated in ways known to those skilled in the art. One way could include starting the payload plate 334 at an angle such that it hits a hard stop, such as the "end of motion" point on the respective linear actuator for that specific axis. In sensing motion from a given starting point or angle, the CPU will know the position angle of payload plate 334 in relation to the level data given off by sensor package A, which includes level sensor data relative to gravity. Sensor package A as a single unified sensor can also incorporate sensors that sense rate motion, rotational motion, or other rates and angles of motion depending on the type of sensor. In this case, though sensor package A

may physically be one sensor, ~~it is sensor that~~ the sensor may incorporates the two functions of providing both rate sensor data and level sensor data. For instance, if level sensor located at A indicates that the pitch axis is positive 10 degrees, and the motor encoder or shaft encoder for the pitch axis indicates that payload plate 334 is positioned 100 motor turns from a pre-determined hard stop, such as the end of travel point of the actuator's motor, then the location of payload plate is 10 degrees positive plus or minus the number of degrees represented by the 100 motor turns counted by the pitch axis encoder, thus giving the location of the payload plate 334. The level sensor data of A, when coupled with the joint angle data from at least one shaft encoder or motor encoder per axis, will provide the position of payload plate 334 at any moment in time.

SUPPORT: Cleaning up the grammar.